TRAINING PROGRAM OF INSTRUCTION (TPI)

FOR

DINFOS-DMC

DIGITAL MULTIMEDIA COURSE

Approved by:

Hiram Bell, Jr.
Colonel, U.S. Army
Commandant
Defense Information School

Approval Date: 3 Sep 2002

DIGITAL MULTIMEDIA COURSE
TRAINING PROGRAM OF INSTRUCTION

Table of Contents

TRAINING PROGRAM OF INSTRUCTION

Preface

TRAINING PROGRAM OF INSTRUCTION FILE NUMBER (TPFN): DINFOS-DMC

TITLE: Digital Multimedia Course

TRAINING LOCATION: Defense Information School, Fort George G. Meade, Maryland

SPECIALTY AWARDED: NEC 8193

PURPOSE: To train selected officer/enlisted personnel and civilian employees of the Department of Defense in the principles, techniques, and skills required to perform the duties and functions of an digital multimedia technician.

COURSE DESCRIPTION: The Digital Multimedia Course (DMC) provides training in the knowledge and skills needed to create and integrate text, graphics, sound, animation and full-motion video into multimedia and web-based packages. The course includes instruction in the operation of computer systems, input and output devices to acquire, enhance, design, manage, output, and archive digital imaging, graphic design and multimedia files. Students use software to create, manage and render the following: composite photographic layouts, graphic designs, page layouts, video productions, web pages and interactive multimedia solutions. The Digital Multimedia Course also includes theoretical and working instruction of computer fundamentals and functions, troubleshooting, networking, communications, color theory, and the principles and implementation of color management. DoD policies and instructions relative to ethics and use of computer generated and altered images are emphasized.

PREREQUISITES: This course is open to DoD military and civilian personnel in the Visual Information and (VI) and Public Affairs (PA) career fields. All Services require at least one year of experience in computer operations to include the following: computer setup, mouse control, file system navigation, file management, and basic file creation.

USAF: E-3 through E-7; Civilians GS-05 through GS-09 (Series 1070,1071)
USN: E-3 through E-7 HM (8472), JO, PH, DM, LI, - E-7 less than 16 years Officer - O-1 through O-3 VI: 647X, Civilians GS-5 through GS-11 (Series 1082, 1084, 1060, 1001, 1071, 1035, 1020)
USA: E-4 through E-7 (PA - 46Q; VI - 25M, 25V, 25Z); Civilians GS-07 (Series 1035). GS-11 (Series 1082)
USMC: E-4 through E-9 (PA); E-4 through E-7 (VI); Civilians GS -11 (PA Series 1035, VI Series 1001, 1081)
USCG: E-4 through E-7
GIA: Geospacial Intelligence Agency (formally NIMA): E-4 through E-9; Officer O-1 through O-4; Civilians: as determined by agency

SECURITY CLEARANCE: None
CLASS SIZE:

MAXIMUM	18
MINIMUM	12
ANNUAL COURSE CAP	108

COURSE LENGTH: 33 Days

ACADEMIC HOURS:	258 hrs
ADMINISTRATIVE HOURS:	6 hrs
TOTAL COURSE HOURS:	264 hrs

INSTRUCTOR CONTACT HOURS: 721.5 hrs

TYPE/METHOD OF INSTRUCTION:

1. Lecture (L) 49.5 hrs
2. Performance Exercise (PE) 122 hrs
3. Demonstration (D) 48.5 hrs
4. Examination (E)

Performance Examination (EP)	29 hrs
Written Examination (EW)	9 hrs

5. Administrative Hours (AD) 6 hrs

TRAINING START DATE: October 30, 2002

ENVIRONMENTAL IMPACT: None. DoD policy was followed to assess the environmental impact.

MANPOWER: The Interservice Training Review Organization (ITRO) formula was used to determine the number of instructors required.

EQUIPMENT AND FACILITIES: The Course Design Resource Estimate (CDRE) contains this information.

TRAINING DEVELOPMENT PROPONENT: Defense Information School, Course and Faculty Development Office, (301) 677-3273; DSN 622-3273

FUNCTIONAL AREA 1
COMPUTER FUNDAMENTALS

TPFN: DINFOS-DMC-001-001-

UNIT TITLE: Safety

TPFN HOURS AND TYPE: .5L

TPFN TOTAL HOURS: .5

PREREQUISITE TPFN: None

TASK(S): 001 Identify and define safety precautions for working with electronic imaging systems.

SUMMARY OF INSTRUCTION: Students are given an overview of safety precautions to observe when working with electronic imaging systems to include the identification of electrical hazards, the primary causes of eye strain and carpal tunnel syndrome, and issues associated with the presence of food or drink.

REFERENCES: DMC Student Guide; *Troubleshooting the Mac Workbook*, Data-Tech Institute; DINFOS Policies and Procedures Manual (POPMAN)

INSTRUCTOR/STUDENT RATIO: 1:9(L)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 1
COMPUTER FUNDAMENTALS

TPFN: DINFOS-DMC-001-002-

UNIT TITLE: Workstation Familiarization

TPFN HOURS AND TYPE: 2.5L

TPFN TOTAL HOURS: 2.5

PREREQUISITE TPFN: DINFOS-DMC-001-001-001

TASK(S):
001 List hardware component fundamentals.
002 List operating system fundamentals.
003 Discuss hardware setup.

SUMMARY OF INSTRUCTION: Students are provided an overview of the hardware and operating system features of a computer system. Following this unit of instruction, students will be able to discuss the different types and uses of memory and storage media, explain the role of the CPU and various types of buses, identify how monitors operate, conceptualize how RAM and virtual memory work, identify different types of operating systems, describe the features of an operating system, and explain the roles of extensions, drivers and control panels. Students are also presented with procedures pertaining to the proper setup of computer hardware.

REFERENCES: DMC Student Guide; *How Computers Work*, Ziff Davis; *How Mac's Work*, Ziff Davis; Memory.com web page, http://www.memory.com

INSTRUCTOR/STUDENT RATIO: 1:9(L)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 1
COMPUTER FUNDAMENTALS

TPFN: DINFOS-DMC-001-003-

UNIT TITLE: Computer Maintenance

TPFN HOURS AND TYPE: .5L; 1.5D; 1PE

TPFN TOTAL HOURS: 3

PREREQUISITE TPFN: DINFOS-DMC-001-002-003

TASK(S):
001 Define and use diagnostic resources necessary to detect the cause of software malfunctions.
002 Define and use troubleshooting techniques necessary to correct computer malfunctions and preventive maintenance.

SUMMARY OF INSTRUCTION: Students are presented information pertaining to troubleshooting computer hardware and software malfunctions and procedures associated with the attempt to prevent these malfunctions from occurring. Issues related to disk fragmentation, file corruption, preference and temporary files, conflicting software packages, computer viruses, and various failed computer components are discussed. Disk utility applications are used throughout the course of instruction to repair hardware and software malfunctions and are presented as a preventive maintenance tool. The theories of and reasons behind the use of good file management are introduced and used throughout the course of instruction.

REFERENCES: DMC Student Guide; *Troubleshooting the Mac Workbook*, Data-Tech Institute; Norton Utilities for Macintosh Users; Computer Emergency Response Team web page, http://www.cert.mil; Memory.com web page, http://www.memory.com

INSTRUCTOR/STUDENT RATIO: 1:9(L), 1:6(D, PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 1
COMPUTER FUNDAMENTALS

TPFN: DINFOS-DMC-001-004-

UNIT TITLE: Communications

TPFN HOURS AND TYPE: 1.5L; .5PE

TPFN TOTAL HOURS: 2

PREREQUISITE TPFN: DINFOS-DMC-001-003-002

TASK(S):
001 Discuss various methods to send files (e.g., FTP, dial-up, point to point, email).
002 Discuss modem configuration issues concerning dial-up point to point connections.
003 Use various remote delivery methods to send files (e.g., FTP, email).
004 Discuss security concerns regarding transmission of imagery over unsecured lines.

SUMMARY OF INSTRUCTION: Students discuss and use various methods to send and receive computer based files. Students discuss the concepts behind point to point connections, file transfer protocol (FTP), dial-up connections and factors that influence the performance of modems, the use of e-mail and the Internet as transferring systems, and security concerns related to the transmission of files over unsecured networks. Students also use FTP and email to transfer files.

REFERENCES: DMC Student Guide; *Internet,* Infostreet Inc.

INSTRUCTOR/STUDENT RATIO: 1:9 (L), 1:6(PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 1
COMPUTER FUNDAMENTALS

TPFN: DINFOS-DMC-001-005-

UNIT TITLE: Networking

TPFN HOURS AND TYPE: .5L; .5PE

TPFN TOTAL HOURS: 1

PREREQUISITE TPFN: DINFOS-DMC-001-004-004

TASK(S):
001 Identify and define the characteristics and principles of networking terms and protocol.
002 Identify and define the characteristics, principles and equipment necessary to set up a local area network with access to the Internet.
003 Use a network file server in accordance with established procedures using a computer workstation with Internet access.

SUMMARY OF INSTRUCTION: Students are presented with a general knowledge of networking terms and equipment necessary to establish Internet and network connectivity. Topics include: understanding the various types of networking hardware and protocols, different types of network servers and their uses, methods to connect a workstation to a network, and the features of TCP/IP addressing. Students will use network file servers and the Internet throughout the course of instruction.

REFERENCES: DMC Student Guide; *How Networks Work,* Ziff Davis

INSTRUCTOR/STUDENT RATIO: 1:9(L), 1:6(PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 1
COMPUTER FUNDAMENTALS

TPFN: DINFOS-DMC-001-006-

UNIT TITLE: Ethics and Policies

TPFN HOURS AND TYPE: 1L

TPFN TOTAL HOURS: 1

PREREQUISITE TPFN: DINFOS-DMC-001-005-003

TASK(S):
001 Select statements that best describe image enhancement and image manipulation.
002 Identify and define DoD policies, guidelines, and ethical standards required when using electronic imaging processes.
003 Identify and define copyrights and other legal issues affected by electronic imaging processes.

SUMMARY OF INSTRUCTION: Information presented in this unit is critical to the effectiveness and trustworthiness of DoD Imagery released through both internal and external communications channels. At the conclusion of the unit, students will be able to differentiate between image enhancement and image manipulation and how each fall under the realm of current DoD policies. Students identify acceptable and prohibited practices while discussing examples both civilian and military sources. Students are also presented information pertaining to copyrights.

REFERENCES: DMC Student Guide; DoD Directive 5040.5, Alteration of Official DoD Imagery

INSTRUCTOR/STUDENT RATIO: 1:9(L)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 1
COMPUTER FUNDAMENTALS

TPFN: DINFOS-DMC-001-007-

UNIT TITLE: Computer Fundamentals Measurement

TPFN HOURS AND TYPE: 1EW

TPFN TOTAL HOURS: 1

PREREQUISITE TPFN: DINFOS-DMC-001-006-003

TASK(S): 001 Functional area examination and critique

SUMMARY OF INSTRUCTION: This unit serves to measure the student's comprehension of material covered in this functional area. A minimum score of 70% on a written examination is required before the student may progress to further functional areas.

REFERENCES: All previous functional area references

INSTRUCTOR/STUDENT RATIO: 1:9(EW)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 2
DIGITAL IMAGE INPUT / OUTPUT

TPFN: DINFOS-DMC-002-001-

UNIT TITLE: Digital Cameras

TPFN HOURS AND TYPE: 4L; 1D; 5PE

TPFN TOTAL HOURS: 10

PREREQUISITE TPFN: DINFOS-DMC-001-007-001

TASK(S):
- 001 Identify and define statements that describe the characteristics and principles of digital cameras.
- 002 Shoot digital images using a digital camera kit.
- 003 Transfer and manage images using a computer workstation and image editing software.

SUMMARY OF INSTRUCTION: Students are presented with an overview of digital camera systems. Upon completion of this unit, students can discuss the functions of a CCD, various storage media used with a digital camera, the differences between a traditional and a digital camera, differences between traditional and digital flash photography, and various controls of both camera body and flash units. Students will be presented with basic exposure and camera operation information. Students will then use the presented knowledge in multiple shooting assignments. The imagery from these assignments will be used in future course tasks. Students will use procedures for downloading information from the camera and storage media into a computer workstation.

REFERENCES: DINFOS-DMC Student Guide; Nikon D1H User Manual; Web Site: *http://www.dpreview.com;* "Nikon Viewer" and "Nikon Transfer" Software Manual

INSTRUCTOR/STUDENT RATIO: 1:9(L);1:6(D, PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 2
DIGITAL IMAGE INPUT / OUTPUT

TPFN: DINFOS-DMC-002-002-

UNIT TITLE: Digital Scanners

TPFN HOURS AND TYPE: 4L; 1D; 1PE

TPFN TOTAL HOURS: 6

PREREQUISITE TPFN: DINFOS-DMC-002-001-003

TASK(S):
- 001 Identify and define statements that describe the characteristics and principles of digital film and flatbed scanners.
- 002 Acquire, crop, enhance, resize, and output digitally scanned images with film and flatbed scanners in accordance with established procedures using a computer workstation and image editing software.

SUMMARY OF INSTRUCTION: Students are given an overview of desktop scanner technologies and the application of these devices in military imaging environments. Classroom discussion includes the capabilities and limitations of various types of scanners, a detailed investigation of resolutions and how scanning resolution impacts the final output, how dynamic range influences image quality, and procedures for producing optimum results from a scanned image. Students will use presented procedures to scan imagery on both film and flatbed scanners then output the scanned imagery to compare the rendered scan to the original.

REFERENCES: DINFOS-DMC Student Guide; Vistascan User Manual; Nikon LS2000 User Manual

INSTRUCTOR/STUDENT RATIO: 1:9(L);1:6(D, PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 2
DIGITAL IMAGE INPUT / OUTPUT

TPFN: DINFOS-DMC-002-003-

UNIT TITLE: Output Devices

TPFN HOURS AND TYPE: 2L; 2PE

TPFN TOTAL HOURS: 4

PREREQUISITE TPFN: DINFOS-DMC-002-002-002

TASK(S):
001 Identify and define the characteristics and principles of output devices.
002 Identify and define procedures associated with the output of digital files associated with the offset printing process.
003 Output digital images to a writeable CD ROM recorder in accordance with established procedures using a computer workstation.
004 Discuss cross-platform compatibility issues.

SUMMARY OF INSTRUCTION: Students are given an overview of various printer technologies and their applications in military imaging environments. Discussions include identifying various types of output devices and how they differ in operation, effects of image resolution on output, explaining the concept of halftone screens, and the creation of negatives and plates and how they are used in the offset printing process. Students are provided further instruction into procedures for creating CD-ROM's and the importance of cross-platform compatibility by discussing file formats and naming conventions for different operating systems. At the conclusion of the course, students will create a CD-ROM.

REFERENCES: DINFOS-DMC Student Guide; *Graphic Workbook*, Mac Academy; CD ROM Recorder User Manual; HP720 Plotter User Manual; Encad Pro 42e User Manual; Accuprint Software User Manual

INSTRUCTOR/STUDENT RATIO: 1:9(L);1:6(PE)

SAFETY FACTORS: NA

FUNCTIONAL AREA 2
DIGITAL IMAGE INPUT / OUTPUT

TPFN: DINFOS-DMC-002-004-

UNIT TITLE: Color Theory

TPFN HOURS AND TYPE: 3L

TPFN TOTAL HOURS: 3

PREREQUISITE TPFN: DINFOS-DMC-002-003-004

TASK(S):
001 Define color theory as it relates to electronic imaging.
002 Identify color models as they relate to electronic imaging.

SUMMARY OF INSTRUCTION: Students are presented an overview of color theory. Discussions pertaining to color models as they relate to input and output are held. The RGB color model is explored for how color is created by input, output and photographic processes. The CMYK color model is examined for how it creates color for certain types of output and why it is not used in other arenas. Discussions further describe the components of presented color models and how the models relate to one another and to the CIE color model.

REFERENCES: DINFOS-DMC Student Guide; *Understanding Desktop Color*, Kiernan; Kodak Colorflow ICC Profile Tools Training Manual; Kodak Colorflow Profile Editor Manuals

INSTRUCTOR/STUDENT RATIO: 1:9(L)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 2
DIGITAL IMAGE INPUT / OUTPUT

TPFN: DINFOS-DMC-002-005-

UNIT TITLE: Color Calibration

TPFN HOURS AND TYPE: 2L; 5D; 8PE

TPFN TOTAL HOURS: 15

PREREQUISITE TPFN: DINFOS-DMC-002-004-002

TASK(S):
001 Define color calibration and characterization as it relates to electronic imaging.
002 Identify, define and apply procedures associated with the color calibration and characterization of color monitors, scanners, and output devices.
003 Apply color management principles as they relate to electronic imaging.

SUMMARY OF INSTRUCTION: Students are presented with an overview of procedures associated with the calibration and characterization of computer monitors, scanners, digital cameras and output devices. Students will then apply these procedures using color management hardware and software. Students will also apply color management profiles and color working spaces to images and artwork in order to maintain color integrity from image acquisition to output.

REFERENCES: DINFOS-DMC Student Guide; *Understanding Desktop Color*, Kiernan; Kodak Colorflow ICC Profile Tools Training Manual; Kodak Colorflow Profile Editor Manuals

INSTRUCTOR/STUDENT RATIO: 1:9(L);1:6(D, PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 2
DIGITAL IMAGE INPUT / OUTPUT

TPFN: DINFOS-DMC-002-006-

UNIT TITLE: Digital Image Input / Output Measurement

TPFN HOURS AND TYPE: 1EW; 3EP

TPFN TOTAL HOURS: 4

PREREQUISITE TPFN: DINFOS-DMC-002-005-003

TASK(S):
001 Functional area examination and critique
002 Apply input / output principles

SUMMARY OF INSTRUCTION: This unit serves to measure the student's comprehension of material covered in this functional area. A minimum score of 70% on a written examination and a minimum score of 70% on a performance examination is required before the student may progress to further functional areas.

REFERENCES: All previous functional area references

INSTRUCTOR/STUDENT RATIO: 1:9(EW), 1:6(EP)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 3
ARCHIVING

TPFN: DINFOS-DMC-003-001

UNIT TITLE: Archives

TPFN HOURS AND TYPE: 3L; 1D; 2PE

TPFN TOTAL HOURS: 6

PREREQUISITE TPFN: DINFOS-DMC-002-006-002

TASK(S):
001 Identify and define the characteristics and principles of archive techniques.
002 Edit, organize, and archive electronic imaging products.
003 Discuss Joint Combat Camera Center (JCCC) requirements and standards for electronic image submission.
004 Describe various methods of transferring digital imagery.

SUMMARY OF INSTRUCTION: Students will discuss and apply the principles and procedures associated with archiving computer based files. Students will discuss and then apply procedures associated with the following topics: defining the purposes for archiving, identifying items to be archived, understanding the processes involved in building a catalog, identifying the components of a well written caption, standards for submitting imagery to the Joint Combat Camera Center, procedures associated with creating a VIRIN, how to use the IPTC header data of various file formats, and methods associated with transferring files.

REFERENCES: DINFOS-DMC Student Guide; Joint Combat Camera Center (JCCC) Web Page: www.dodimagery.afis.osd.mil; *Extensis Portfolio*; *MediaGrid,* Software Construction Company; *Cumulus*, Canto Software Inc.

INSTRUCTOR/STUDENT RATIO: 1:9(L);1:6(D, PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 3
ARCHIVING

TPFN: DINFOS-DMC-003-002-

UNIT TITLE: Archiving Measurement

TPFN HOURS AND TYPE: 1EW

TPFN TOTAL HOURS: 1

PREREQUISITE TPFN: DINFOS-DMC-003-001-004

TASK(S): 001 Functional area examination and critique

SUMMARY OF INSTRUCTION: This unit serves to measure the student's comprehension of material covered in this functional area. A minimum score of 70% on a written examination is required before the student may progress to further functional areas.

REFERENCES: All previous functional area references.

INSTRUCTOR/STUDENT RATIO: 1:9(EW)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 4
RASTOR BASED IMAGES

TPFN: DINFOS-DMC-004-001-

UNIT TITLE: Electronic Image Editing Techniques

TPFN HOURS AND TYPE: 6L; 9D; 24PE

TPFN TOTAL HOURS: 39

PREREQUISITE TPFN: DINFOS-DMC-002-006-002

TASK(S):

001 Discuss functions and operations of image enhancement software.
002 Use basic photo editing tools and techniques.
003 Discuss various types of compression techniques to include Lossy and Loss-Less compression formats.
004 Use various compression formats.
005 Identify and define advanced editing techniques used to enhance digital images.
006 Create composite images using layers.
007 Using advanced editing techniques, enhance images using masks.
008 Use advanced color correction.
009 Perform action/batch processing.

SUMMARY OF INSTRUCTION: Students are presented an overview of the functions and operations of image enhancement software and the software's applications in the military imaging environment. Upon completion of this unit, students will be able to accomplish the following: describe the two primary tasks of image enhancement software, describe a pixel and its role in a digital image, discuss how channels affect the color of a displayed pixel, use various methods for selecting, moving, transforming, and painting pixels, use methods to apply text to an image, discuss and use various compression formats for saving image files, create basic web graphics, use layers and their associated constructs to create composite images, use masks to create stored alpha channels, use actions and batch processing to automate image enhancement procedures, and apply basic and advanced color correction methods using various color models, adjustment tools and channels.

REFERENCES: DINFOS-DMC Student Guide; *Mac World Photoshop Bible*, McClelland; *Photoshop Artistry*, Hanes and Crumpler; *Professional Photoshop,* Morgulis; *Adobe Photoshop Classroom in a Book*; *Graphic Workbook*, MacAcademy

INSTRUCTOR/STUDENT RATIO: 1:9(L);1:6(D, PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 4
RASTOR BASED IMAGES

TPFN: DINFOS-DMC-004-002-

UNIT TITLE: Rastor Based Image Measurement

TPFN HOURS AND TYPE: 1EW; 3EP

TPFN TOTAL HOURS: 4

PREREQUISITE TPFN: DINFOS-DMC-004-001-009

TASK(S): 001 Functional area examination and critique
002 Apply rastor based imaging principles

SUMMARY OF INSTRUCTION: This unit serves to measure the student's comprehension of material covered in this functional area. A minimum score of 70% on a written examination and a minimum score of 70% on a performance examination is required before the student may progress to further functional areas.

REFERENCES: All previous functional area references

INSTRUCTOR/STUDENT RATIO: 1:9(EW), 1:6(EP)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 5
GRAPHIC DESIGN

TPFN: DINFOS-DMC-005-001-

UNIT TITLE: Graphic Design

TPFN HOURS AND TYPE: 6L; 7D; 20PE

TPFN TOTAL HOURS: 33

PREREQUISITE TPFN: DINFOS-DMC-002-006-002

TASK(S):

001 Discuss basic illustration software tools and techniques.
002 Perform basic illustration techniques using illustration software.
003 Identify and define advanced graphic design techniques used to create and enhance digital images.
004 Using advanced graphic design techniques, explain the concept of image perspective transformation (IPT).
005 Using advanced graphic design techniques, create technical illustrations.
006 Using advanced graphic design techniques, create 3-D illustrations and models.
007 Using advanced graphic design techniques, create graphic composition.

SUMMARY OF INSTRUCTION: Students are given and overview of graphic design software and techniques used to create graphics to be used independently or as an enhancement to a digital image. Students will discuss and use procedures associated with the following: creating and selecting paths, coloring paths, transforming elements, creating text, using layers, creating groups of elements, applying blends between paths, creating technical drawings, creating three dimensional objects using perspective and the principles of IPT, applying depth to an illustration, and how to use established composition rules. Students will produce several illustrations to demonstrate competency with material presented in this unit.

REFERENCES: DINFOS-DMC Student Guide; *MacWorld Illustrator Bible*, Alspach; *Visual Quickstart Guide for Illustrator*, Weinmann and Lourekas; *Adobe Illustrator Classroom in a Book*

INSTRUCTOR/STUDENT RATIO: 1:9(L);1:6(D, PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 5
GRAPHIC DESIGN

TPFN: DINFOS-DMC-005-002-

UNIT TITLE: Graphic Design Measurement

TPFN HOURS AND TYPE: 1EW; 2EP

TPFN TOTAL HOURS: 2

PREREQUISITE TPFN: DINFOS-DMC-005-001-007

TASK(S):
001 Functional area examination and critique
002 Apply graphic design principles

SUMMARY OF INSTRUCTION: This unit serves to measure the student's comprehension of material covered in this functional area. A minimum score of 70% on a written examination and a minimum score of 70% on a performance examination is required before the student may progress to further functional areas.

REFERENCES: All previous functional area references

INSTRUCTOR/STUDENT RATIO: 1:9(EW), 1:6(EP)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 6
PAGE LAYOUT

TPFN: DINFOS-DMC-006-001-

UNIT TITLE: Page Layout

TPFN HOURS AND TYPE: 3L; 5D; 12PE

TPFN TOTAL HOURS: 20

PREREQUISITE TPFN: DINFOS-DMC-004-002-002 / DINFOS-DMC-005-002-002

TASK(S):
001 Describe the characteristics of page layout software.
002 Create a typical photo story layout using page layout software.
003 Identify and define advanced layout and design concepts.
004 Create a multi-page document using advanced layout and design techniques.

SUMMARY OF INSTRUCTION: Students are presented with an overview of page layout software. Classroom discussion consists of the following: identifying various types of page elements, methods for producing grids, understanding the uses of and methods for creating master pages, methods for defining styles, methods associated with creating photo stories, applying compositional rules to layout elements, applying colors to various page elements, techniques used to create table of contents and indexes, methods for combining multiple documents together, and techniques to create a PDF. Students will create multiple page layouts applying the afore mentioned methodologies.

REFERENCES: DINFOS-DMC Student Guide; *Macworld Pagemaker Bible*, Harrel and Danuluff; *Graphic Workbook*, MacAcademy; *Adobe Pagemaker Classroom in a Book*; *Pagemaker Video Training Series*, Macademy

INSTRUCTOR/STUDENT RATIO: 1:9(L);1:6(D, PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 6
PAGE LAYOUT

TPFN: DINFOS-DMC-006-002-

UNIT TITLE: Page Layout Measurement

TPFN HOURS AND TYPE: 1EW; 3EP

TPFN TOTAL HOURS: 4

PREREQUISITE TPFN: DINFOS-DMC-006-001-004

TASK(S):
001 Functional area examination and citique
002 Apply page layout principles

SUMMARY OF INSTRUCTION: This unit serves to measure the student's comprehension of material covered in this functional area. A minimum score of 70% on a written examination and a minimum score of 70% on a performance examination is required before the student may progress to further functional areas.

REFERENCES
INSTRUCTOR/STUDENT RATIO: 1:9(EW), 1:6(EP)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 7
DIGITAL VIDEO

TPFN: DINFOS-DMC-007-001-

UNIT TITLE: Video Source

TPFN HOURS AND TYPE: 4L; 5D; 12PE

TPFN TOTAL HOURS: 21

PREREQUISITE TPFN: DINFOS-DMC-002-006-002

TASK(S):
001 Identify and define principles and characteristics of acquisition and editing of digital video images.
002 Edit digital video images.
003 Discuss and define basic principles of videography.

SUMMARY OF INSTRUCTION: Students are presented with an overview of videography and video editing software. Students discuss the differences between linear and non-linear video, basic videography concepts, the concept of storyboarding, procedures for capturing audio and video, methods for importing clips into a video editing application, various procedures for editing audio and video clips, procedures for creating titles, and various file formats and the exporting of edited movies to various mediums. Students then apply these techniques to create a movie that can be used in a multitude of applications.

REFERENCES: DINFOS-DMC Student Guide; *Adobe Premiere Classroom in a Book; Adobe Premiere Bible*, Droblas and Greeberg*; Adobe Premiere Users Guide*, Adobe Systems Inc.

INSTRUCTOR/STUDENT RATIO: 1:9(L);1:6(D, PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 7
DIGITAL VIDEO

TPFN: DINFOS-DMC-007-002-

UNIT TITLE: Digital Video Measurement

TPFN HOURS AND TYPE: 1EW; 2EP

TPFN TOTAL HOURS: 3

PREREQUISITE TPFN: DINFOS-DMC-007-001-003

TASK(S):
001 Functional area examination and critique.
002 Apply digital video principles.

SUMMARY OF INSTRUCTION: This unit serves to measure the student's comprehension of material covered in this functional area. A minimum score of 70% on a written examination and a minimum score of 70% on a performance examination is required before the student may progress to further functional areas.

REFERENCES: All previous functional area references

INSTRUCTOR/STUDENT RATIO: 1:9(EW), 1:6(EP)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 8
MULTIMEDIA

TPFN: DINFOS-DMC-008-001-

UNIT TITLE: Advanced Multimedia Techniques

TPFN HOURS AND TYPE: 3L; 7D; 19PE

TPFN TOTAL HOURS: 29

PREREQUISITE TPFN: DINFOS-DMC-004-002-002 / DINFOS-DMC-005-002-002 / DINFOS-DMC-007-002-002

TASK(S):
001 Identify and define the characteristics and principles of multimedia concepts.
002 Using advanced multimedia techniques create an interactive presentation.

SUMMARY OF INSTRUCTION: Students are given an overview of multimedia software. Classroom discussion include: identifying the stages of multimedia authoring, identifying various components of a timeline, explaining procedures for creating animation, understanding the functions of a cast, explaining how to create navigation, and methods for publishing a completed work. Students apply these concepts to create interactive presentations.

REFERENCES: DINFOS-DMC Student Guide; *Graphic Workbook*, Macademy; *Computer Workbook*, Macademy; *Director and Lingo Bible*, DG Books

INSTRUCTOR/STUDENT RATIO: 1:9(L);1:6(D, PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 8
MULTIMEDIA

TPFN: DINFOS-DMC-008-002-

UNIT TITLE: Multimedia Measurement

TPFN HOURS AND TYPE: 1EW; 2EP

TPFN TOTAL HOURS: 3

PREREQUISITE TPFN: DINFOS-DMC-008-001-002

TASK(S): 001 Functional area examination and critique.
002 Apply multimedia principles.

SUMMARY OF INSTRUCTION: This unit serves to measure the student's comprehension of material covered in this functional area. A minimum score of 70% on a written examination and a minimum score of 70% on a performance examination is required before the student may progress to further functional areas.

REFERENCES: All previous functional area references

INSTRUCTOR/STUDENT RATIO: 1:9(EW), 1:6(EP)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 9
WEB SITE DESIGN

TPFN: DINFOS-DMC-009-001-

UNIT TITLE: Web Design

TPFN HOURS AND TYPE: 3L; 6D; 15PE

TPFN TOTAL HOURS: 24

PREREQUISITE TPFN: DINFOS-DMC-003-002-001 / DINFOS-DMC-006-002-002 / DINFOS-DMC-008-002-002

TASK(S):
001 Identify and define the characteristics and principles of web page and web site design.
002 Create a web site.

SUMMARY OF INSTRUCTION: Students are presented an overview of the World Wide Web and technologies that the WWW employs. Students discuss the importance of storyboards and file management as a first step to creating a web site. Students further discuss various file formats supported by web browsers, how HTML works, methods for creating links, the use of tables to structure a page's layout, how frames can be used to enhance page design and navigation, and methods of publishing a web site to a server. Students use web page design software and design concepts to create web pages containing various types of links, tables, frames, rollovers, and styles.

REFERENCES: DINFOS-DMC Student Guide; Macromedia Dreamweaver Users Guide; *The Little Web Book*, Glossbrenner and Glossbrenner; *Visual Quickstart Guide on HTML*, Castro; *Visual Quickstart Guide on Javascript*, Gesing and Schneider; *Elements of Web Page Design*, Dinucci, Giudice and Stiles

INSTRUCTOR/STUDENT RATIO: 1:9(L); 1:6(D, PE)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 9
WEB SITE DESIGN

TPFN: DINFOS-DMC-009-002-

UNIT TITLE: Web Site Design Measurement

TPFN HOURS AND TYPE: 1EW; 2EP

TPFN TOTAL HOURS: 3

PREREQUISITE TPFN: DINFOS-DMC-009-001-002

TASK(S):
001 Functional area examination and critique.
002 Apply web site design principles.

SUMMARY OF INSTRUCTION: This unit serves to measure the student's comprehension of material covered in this functional area. A minimum score of 70% on a written examination and a minimum score of 70% on a performance examination is required before the student may progress to further functional areas.

REFERENCES: All previous functional area references.

INSTRUCTOR/STUDENT RATIO: 1:9(EW), 1:6(EP)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 10
PERFORMANCE TEST

TPFN: DINFOS-DMC-010-001-

UNIT TITLE: Final Project

TPFN HOURS AND TYPE: 12EP

TPFN TOTAL HOURS: 12

PREREQUISITE TPFN: DINFOS-DMC-009-002-002

TASK(S):
001 Create a web site.
002 Create a poster.
003 Create an interactive multimedia presentation.

SUMMARY OF INSTRUCTION: Students are divided into three equal teams. Each team will produce one of the following: a web site, a poster, or a multimedia presentation. These tasks will involve the use of digital camera, image editing, graphic design, page layout, video editing, multimedia authoring, archiving, and other techniques presented throughout the course of instruction. A minimum composite grade of 70% is required on the project.

REFERENCES: DINFOS-DMC Student Guide; all previous references

INSTRUCTOR/STUDENT RATIO: 1:6(EP)

SAFETY FACTORS: N/A

FUNCTIONAL AREA 11
COURSE ADMINISTRATION

TPFN: DINFOS-DMC-011-001-

UNIT TITLE: Administration

TPFN HOURS AND TYPE: 6AD

TPFN TOTAL HOURS: 6

PREREQUISITE TPFN: N/A

TASK(S):
001 Inprocessing/Orientation.
002 Outprocessing.
003 Graduation

SUMMARY OF INSTRUCTION: Self-explanatory.

REFERENCES: DINFOS Policy and Operational Procedures Manual

INSTRUCTOR/STUDENT RATIO: 1:18(AD)

SAFETY FACTORS: N/A